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April 2, 2010

State of California
Board of Equalization
450 N Street
Sacramento, California 94279

Document No. 20912001.2

Attention:

David Gau

Regarding:

Limited Indoor Air Quality Survey

16TH Floor Pre-Occupancy Assessment

Dear Mr. Gau:

On December 1, 2009, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 16th Floor of the State of California State Board of Equalization (BOE) building located at the above mentioned address. This survey was performed in response to BOE's need to reoccupy the 16th Floor subsequent to fungal growth remediation and other renovation work performed under the direction of the State of California Department of General Services (DGS) on that floor. At the time of the survey, various samples were collected and direct-reading instruments were used to assess the general indoor air quality. I have enclosed our report, which included general observations, sample and direct-reading results, a discussion of the data, conclusions, and recommendations.

If you have any comments or questions regarding the information contained in this report, please do not hesitate to contact our offices directly at (310) 370-8370.

Sincerely,

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

Brian P. Daly, CIH, PE

President

3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-7026 FAX www.hygienetech.com

LIMITED INDOOR AIR QUALITY SURVEY PRE-OCCUPANCY ASSESSMENT – 16TH FLOOR

450 N STREET SACRAMENTO, CALIFORNIA

PREPARED FOR:

STATE OF CALIFORNIA BOARD OF EQUALIZATION 450 N STREET SACRAMENTO, CALIFORNIA

PREPARED BY:

HYGIENE TECHNOLOGIES INTERNATIONAL, INC. 3625 DEL AMO BOULEVARD, SUITE 180 TORRANCE, CALIFORNIA

APRIL 2, 2010



1.0 BACKGROUND

On December 1, 2009, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 16th Floor of the State of California State Board of Equalization (BOE) building located at 450 N Street in Sacramento, California. This survey was performed in response to BOE's need to reoccupy the 16th Floor subsequent to fungal growth remediation and other renovation work performed under the direction of the State of California Department of General Services (DGS) on that floor. During the survey, a variety of samples were collected and direct-reading instruments were used to assess the general indoor air quality on the 16th Floor of the subject building. Various air samples were collected in order to assess fungal growth exposure potentials. In addition, air samples were collected throughout the floor for fibrous dust, 4-phenylcyclohexene, formaldehyde, and total dust analysis. Direct-reading instruments were also used to determine airborne volatile organic compounds (VOCs), carbon dioxide (CO₂), air temperature, and relative humidity.

2.0 OBSERVATIONS

The interior building materials of the 16th Floor included, but were not limited to, metal window frames; painted gypsum board and/or metal windowsills; metal doorjambs and door frames; painted gypsum board walls in the general work areas; tile covered walls and painted gypsum board ceilings in the restrooms; suspended 2' by 4' ceiling tiles and or gypsum board ceilings in the general work areas; and ceramic or vinyl tile flooring in the restrooms and break rooms.

The floor was unoccupied on the survey dates but was furnished with typical office desks, upholstered chairs, shelves, fabric covered cubicles, and other general office items. Note that new carpet had been installed and fresh paint had been applied throughout the floor in the weeks preceding the survey date.

3.0 SAMPLING AND ANALYSIS

Air samples were collected and subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program. Other samples were collected for airborne fibers, 4-phenylcyclohexene, formaldehyde, and total dust determinations using either SKC® brand Airchek® 52 sampling pumps or Gast high volume air sampling pumps and the appropriate sampling media. Pump flow rates were established and verified using a BIOS DryCal DC-Lite primary flow meter. Those samples were collected and analyzed along with blanks (identical sampling media through which no air was drawn) at laboratories accredited by the American Industrial Hygiene Association (AIHA) through successful participation in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program. Direct-reading instruments were used to determine airborne VOC levels, the results of which appear in Table 20912001-6 in Appendix A of this report. A discussion of the airborne CO₂ data, along with air temperature and relative humidity results, appears in Section 4.0 of this report. Additional information concerning the specific sampling and analytical methods appears below.



3.0 SAMPLING AND ANALYSIS (CONTINUED)

3.1 Airborne Total Fungi

Air samples for airborne total (viable and nonviable) fungi determinations were collected using a Zefon brand Bio-Pump[™] equipped with Air-O-Cell[™] cassettes. All such samples were collected at various indoor locations and two samples were collected outdoors for comparison purposes. The resultant data, which are presented in spores per cubic meter of air (spores/M³), appear in Table 20912001-1.

3.2 <u>Airborne Fibrous Dust</u>

Area air samples for fibrous dust were collected at stationary locations on 25-millimeter diameter, 0.8-micrometer pore size, mixed cellulose ester filters. The samples were analyzed by phase contrast microscopy (PCM) in accordance with the NIOSH Method 7400. These data are presented in fibers per cubic centimeter (f/cc) of air in Table 20912001-2.

3.3 Airborne Total Dust

Area air samples for total dust determination were collected at stationary locations on filter cassettes containing pre-weighed 37-millimeter diameter, polyvinyl chloride filters having a pore size of five micrometers. The samples were analyzed by gravimetric method in accordance with the NIOSH Method 0500. These data are presented in milligrams per cubic meter of air (mg/M³) and appear in Table 20912001-3.

3.4 Formaldehyde

Area air samples were collected for formaldehyde determinations using DNPH silica gel sorbent tubes. The analyses were performed by high performance liquid chromatography using an ultraviolet detector in accordance with a modified NIOSH Method 2016. These data are presented in parts per million (ppm) and appear in Table 20912001-4.

3.5 Airborne 4-Phenylcyclohexene

Area air samples for 4-phenylcyclohexene were collected by the mini-canisters that were equipped with 6 hour regulators, and each sample was analyzed by gas chromatography with mass spectrometry detection (GC-MS) in accordance with the modified OSHA PV2120/U.S. EPA Method TO15. These data are presented in parts per billion volume (ppbv) and appear in Table 20912001-5.

3.6 Airborne Volatile Organic Compounds

Direct-reading air measurements for VOCs were also recorded at various locations on the 16th Floor using a RAE Systems, Inc. Mini-RAE 2000 photoionization detector, which is capable of detecting a wide variety of unsaturated hydrocarbons at airborne concentrations ranging from 0.1 to 10,000 parts per million (ppm). Prior to the survey, this instrument was calibrated using a 100-ppm isobutylene gas standard. These data are presented in ppm.



3.0 SAMPLING AND ANALYSIS (CONTINUED)

3.7 Airborne Carbon Dioxide

Direct-reading air measurements for airborne CO₂ concentration was recorded at a stationary location using a Telaire[®] 7001 Carbon Dioxide and Temperature Monitor along with the HOBO[®] data logger. The data are presented in ppm.

3.8 Air Temperature and Relative Humidity

Air temperature and relative humidity data were recorded at stationary locations using a Telaire® 7001 Carbon Dioxide and Temperature Monitor along with the HOBO® data logger.

4.0 DISCUSSION

4.1 Airborne Total Fungi

The airborne total fungi data showed mostly common spore types outdoors such as *Alternaria*, ascospores, basidiospores, *Cladosporium*, *Oidium*, other brown, colorless spores typical of *Penicillium* and *Aspergillus* species, rusts, smuts, *Torula*, and/or *Ulocladium*, with basidiospores predominating. Indoors, the ambient data showed that airborne fungal spores were either not detected at or above the laboratory analytical detection limit or were detected at low airborne concentrations that included one or more of the following common fungal spore types: *Alternaria*, basidiospores, *Cladosporium*, colorless spores typical of *Penicillium* and *Aspergillus* species, and/or smuts. Indoors, the distribution of fungal spore types detected in the surveyed areas was consistent with those found outdoors, and the overall data within the tested areas were well below the overall data recorded outdoors. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

4.2 <u>Airborne Fibrous Dust</u>

The data recorded in the surveyed areas indicated that airborne fibrous dusts were not detected at or above the respective laboratory detection limits of 0.002 f/cc and 0.003 f/cc. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data, which are expected to represent employee *exposure potentials* to fibers of various types, including man-made and natural mineral fibers, cellulosics (paper or wood composition), gypsum, and other fibrous dusts common in the environment, are well below the current Cal-OSHA 8-hour TWA PEL for asbestos fibers of 0.1 f/cc, the most restrictive exposure limit for fibrous dusts.

4.3 Airborne Total Dust

Common dust that is typically identified in buildings usually contains a wide variety of materials including, but not limited to, gypsum crystals, cellulosic particles, fiberglass fragments, mineral grains from soil, fungi spores, fine glass fibers, textile and wood fibers, iron or steel fragments, dead skin cells, insect parts, animal dander, and pollens. Generally, exposure to low levels of such materials



4.0 DISCUSSION (CONTINUED)

4.3 <u>Airborne Total Dust</u> (Continued)

does not produce ill effects in most persons. In fact, these so-called *nuisance dusts* have a long history of little adverse effect to the lungs and are not known to produce significant diseases or toxic effects, such as collagen (scar tissue) formation, when exposure are kept under reasonable control.

The data recorded in the surveyed areas showed that airborne total dust was not detected at or above the laboratory analytical detection limit of 0.21 mg/M³ indicated. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for total dust of 10 mg/M³, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155). Note that these data are also well below the American Conference of Governmental Industrial Hygienists 8-hour TWA threshold limit value (TLV-TWA) for particulate (not otherwise classified) of 10 mg/M³; the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Primary Standard of 0.26 mg/M³ (24-hour standard); and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) theoretical value for non-occupational environments of 1/10 of the TLV.

4.4 Formaldehyde

The data recorded in the surveyed areas indicated that airborne formaldehyde was either not detected at the laboratory analytical detection limit, or was detected at levels ranging from 0.006 to 0.01 ppm. Because these samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for Formaldehyde of 0.75 ppm, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155).

4.5 <u>Airborne 4-Phenylcyclohexene</u>

The airborne data indicated that 4-phenylcyclohexene was not detected at or above the laboratory analytical detection limits indicated. Although current standards or guidelines have not been established for 4-phenylcyclohexene at the time of this report, all such data are considered unremarkable.

4.6 <u>Airborne Volatile Organic Compounds</u>

With the use of a direct-reading photoionization detector, VOCs were not detected at or above the instrument detection limit of 0.1 ppm. Because these data were recorded at stationary locations at approximate breathing zone height, the results are expected to represent building occupant *exposure* potentials for those persons occupying or passing through the areas monitored. These data were well below the surrogate Cal-OSHA PELs that are often used for comparative purposes regarding VOC exposures, such as those for gasoline, hexane, and varnish makers and painters (VM&P) naphtha.



4.0 DISCUSSION (CONTINUED)

4.7 Airborne Carbon Dioxide

The direct-reading results indicated that CO_2 was detected at levels ranging from 601 to 761 ppm on the 16th Floor. While these data were somewhat higher than the expected outdoor CO_2 levels, which generally range between 320 and 350 ppm, they are considered normal for indoor environments and they are all well below the Cal-OSHA 8-hour TWA PEL for CO_2 of 5000 ppm (T8, CCR, § 5155). They are also below the level of 1000 ppm, which is essentially equivalent to the recommended upper limit for building occupant comfort and odor control established by ASHRAE (not greater than 700 ppm above the outdoor CO_2 value) as stated in ASHRAE 62-2001.

Based on historic studies performed by HygieneTech, building occupant complaints of "stuffy" air often begin when CO₂ levels exceed 800 ppm. HygieneTech has also found that some sensitive persons may experience discomfort, including eye irritation and headache, when CO₂ levels reach 1,000 ppm. Such symptoms are not believed to be the result of an unhealthful exposure to CO₂; rather, they are thought to be the result of exposure to other common indoor air pollutants which, if not exhausted and/or diluted, can accumulate over time.

4.8 Air Temperature and Relative Humidity

The air temperatures on the survey date ranged between 70.0 and 74.0 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer).

Relative humidity data were recorded indoors at levels ranging from 28.7 to 35.0 percent. Such levels were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.

5.0 CONCLUSIONS

- 5.1 The airborne total fungi data recorded in the surveyed areas showed airborne fungi levels that were below those recorded outdoors and therefore considered unremarkable. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.
- 5.2 The airborne total and fibrous dust, 4-phenylcyclohexene, formaldehyde, VOC, and CO₂ levels recorded during the survey were unremarkable. Collectively, the data were well below applicable Cal-OSHA 8-hour TWA PELs and/or other occupational, non-occupational, ASHRAE, or foreign guidelines. The data are not expected to represent conditions that pose a measurable health risk to the building occupants.



5.0 CONCLUSIONS (CONTINUED)

- 5.3 On December 1, 2009, air temperatures ranged between 70.0 and 74.0 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer). Relative humidity data were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.
- 5.4 Be advised that the data provided in this report only represent fungal growth exposure potentials that existed at the time the survey was performed and at the precise sample locations only, the latter of which were selected based on the available background information provided. Note that fungal growth and exposure potentials may change due to changes in environmental conditions (such as those caused by water intrusion), use of mechanical systems, or other factors. Also be advised that additional fungal growth may exist at one or more locations in the structure that were not specifically assessed during the survey.

6.0 RECOMMENDATIONS

All such recommendations are based strictly on the assessment information and analytical data that were available to HygieneTech at the time this report was prepared. Be advised that, in order to establish data that accurately reflects all the fungal growth sites on the 16th Floor, additional assessment evaluations may be required as more information is known regarding the history of water intrusion episodes in discrete building areas.

- 6.1 Additional fungal growth remediation is potentially required within the core of the 16th Floor due to known fungal growth reservoirs confirmed in similar areas on other floors during destructive testing, as stated by LaCroix Davis, LLC in their *California State Board of Equalization Building Assessment Final Report* dated February 29, 2009. The purpose of this assessment was to allow the BOE to safely reoccupy the 16th Floor. Until such time that these confirmed fungal growth and perhaps other unknown reservoirs are remediated within the structure, it is highly likely that complaints related to fungal growth-like odors, which has been a common concern on several floor, will continue to be an issue. The HygieneTech investigation into the odor complaints, conclusions, and recommendations can be found in HygieneTech Document No. 20903001.1 dated May 4, 2009.
- 6.2 If not yet established, an accurate record of all air monitoring results should be maintained in accordance with Cal-OSHA regulation found in T8, CCR § 3204. All affected employees should be informed that the *exposure potential* data in this report exist and that those persons, or their representatives, have a right to access relevant exposure data and medical records.
- 6.3 Air temperatures levels on the 16th Floor should be adjusted to the appropriate ranges recommended by ASHRAE for occupant comfort.



6.0 RECOMMENDATIONS (CONTINUED)

6.4 Also be advised that the exposure data recorded during the survey may not be sufficiently broad to adequately assess the suitability of the indoor air quality for all individuals, particularly those who are extremely sensitive to certain chemical and/or biological substances or for those individuals with immune system deficiencies. Although not expected, if persons occupying or passing through the 16th Floor do experience non-specific ill effects of unknown etiology, then those affected should be referred to a medical professional in order to determine or specify the possible cause(s) of such reactions. If more information becomes available, further investigation and air monitoring may be warranted.

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

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Kenny K. Hsi	, CIH
Technical Dir	ector

Date: April 2, 2010

Date: April 2, 2010

Brian P. Daly, CIH, PE

President



CLIENT: State of California Board of Equalization 450 N Street Sacramento, California 94279

TABLE 20912001-1 **AIRBORNE TOTAL FUNGI RESULTS** 16TH FLOOR **SACRAMENTO, CALIFORNIA DECEMBER 1, 2009**

Page 1

	ults reported in spore		r air (spores/M ²)	
SAMPLE NUMBER	20912001-1 TM01OUTSM	20912001-1 TM02SM	20912001-1 TM03SM	20912001-1 TM04SM
SAMPLING LOCATION/ACTIVITIES	Outdoors; about 25 feet east of building; approximately five feet above ground/Normal outdoor activities	Column N22 area; Cubicle 119; approximately five feet above floor/Sampling activities only	Column N20 area; Quiet Room 1614; about center; approximately five feet above floor/Sampling activities only	Column N18 area; Cubicle 19.01; approximately five feet above floor/Sampling activities only
START/STOP	9:08:00/9:13:00	9:26:00/9:31:00	9:35:00/9:40:00	9:45:00/9:50:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria		13		
Arthrinium				
Ascospores	910			
Aureobasidium				
Basidiospores	8,700		110	110
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	4,900		93	130
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium	13			
Other brown	13			
Penicillium/Aspergillus types	1,900			110
Pithomyces				
Rusts				
Smuts, Periconia, Myxomycetes	110		13	
Stachybotrys				
Stemphylium				
Torula	13			
Ulocladium				
Hyphal fragments	160	<13	13	<13
Background debris*	3+	1+	1+	1+
TOTAL**	17,000	13	210	350

^{*}Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

^{**}Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.



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TABLE 20912001-1 **AIRBORNE TOTAL FUNGI RESULTS** 16TH FLOOR SACRAMENTO, CALIFORNIA **DECEMBER 1, 2009**

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Resu	ults reported in spore			
	20912001-1 TM05SM	20912001-1 TM06SM	20912001-1 TM07SM	20912001-1 TM08SM
SAMPLING LOCATION/ACTIVITIES	Training Room 1607; about center; approximately five feet above floor/Sampling activities only	Column K18 area; Cubicle 55; about center; approximately five feet above floor/Sampling activities only	Column K20 area; Cubicle 47; about center; approximately five feet above floor/Sampling activities only	Column K22 area; Cubicle 75; about center; approximately five feet above floor/Sampling activities only
START/STOP	9:55:00/10:00:00	10:05:00/10:10:00	10:15:00/10:20:00	10:25:00/10:30:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores				
Aureobasidium				
Basidiospores			53	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53		110	
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts, Periconia, Myxomycetes				
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	<13	<13	<13	<13
Background debris*	1+	1+	1+	1+
TOTAL**	53	<13	160	<13

^{*}Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

^{**}Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.



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TABLE 20912001-1
AIRBORNE TOTAL FUNGI RESULTS
16TH FLOOR
SACRAMENTO, CALIFORNIA
DECEMBER 1, 2009

Page 3

Results reported in spores per cubic meter of air (spores/M³)

		s per cubic meter of air	(spores/M³)	
SAMPLE NUMBER	20912001-1 TM09SM	20912001-1 TM10OUTSM		
SAMPLING LOCATION/ACTIVITIES	West of Columns L22 and M22; Cubicle 104; about center; approximately five feet above floor/Sampling activities only	Outdoors; about 25 feet east of building; approximately five feet above ground/Normal outdoor activities	This column intentionally left blank	This column intentionally left blank
START/STOP	10:32:00/10:37:00	10:50:00/10:55:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria		27		
Arthrinium				
Ascospores		590		
Aureobasidium				
Basidiospores	53	6,800		
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53	3,700		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types		1,200		
Pithomyces				
Rusts		27		
Smuts, Periconia, Myxomycetes		93		
Stachybotrys				
Stemphylium				
Torula				
Ulocladium		13		
Hyphal fragments	<13	120		
Background debris*	1+	3+		
TOTAL**	110	12,000		

^{*}Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

^{**}Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

APPENDIX A



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Sacramento, California 94279

TABLE 20912001-2 16TH FLOOR AIRBORNE FIBERS RESULTS SACRAMENTO, CALIFORNIA DECEMBER 1, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (f/cc)	PEL (f/cc)
Area Sample	Quiet Room 1614; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 08AR	08:01/ 12:01	240 minutes	Fibers	< 0.003	0.1
Area Sample	Column K20 area; Cubicle 47; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 09AR	08:02/ 12:02	240 minutes	Fibers	<0.003	0.1
Area Sample	Column M22 area; Cubicle 104; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 10AR	12:03/ 16:03	240 minutes	Fibers	<0.003	0.1
Area Sample	Column N18 area; Cubicle 21; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 11AR	12:04/ 16:04	240 minutes	Fibers	<0.003	0.1
Blank	N/A	N/A	20912001- 12AR BLANK	N/A	N/A	Fibers	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

f/cc: Fibers per cubic centimeter of air

APPENDIX A



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TABLE 20911001-3 16TH FLOOR AIRBORNE TOTAL DUST RESULTS SACRAMENTO, CALIFORNIA DECEMBER 1, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/M³)	PEL (mg/M³)
Area Sample	Quiet Room 1614; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 03AR	08:01/ 12:01	240 minutes	Total Dust	<0.21	10
Area Sample	Column K20 area; Cubicle 47; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 04AR	08:02/ 12:02	240 minutes	Total Dust	<0.21	10
Area Sample	Column M22 area; Cubicle 104; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 05AR	08:03/ 12:03	240 minutes	Total Dust	<0.21	10
Area Sample	Column N18 area; Cubicle 21; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 06AR	08:04/ 12:04	240 minutes	Total Dust	<0.21	10
Blank	N/A	N/A	20912001- 07AR BLANK	N/A	N/A	Total Dust	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment

N/A: Not applicable

mg/M³: Milligrams per cubic meter

APPENDIX A



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Sacramento, California 94279

TABLE 20912001-4 16TH FLOOR AIRBORNE FORMALDEHYDE RESULTS SACRAMENTO, CALIFORNIA DECEMBER 1, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	PEL (ppm)
Area Sample	Quiet Room 1614; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 13AR	13:00/ 14:15	75 minutes	Formaldehyde	0.009	0.75
Area Sample	Column K20 area; Cubicle 47; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 14AR	13:02/ 14:17	75 minutes	Formaldehyde	0.006	0.75
Area Sample	Column M22 area; Cubicle 104; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 15AR	13:04/ 14:19	75 minutes	Formaldehyde	<0.005	0.75
Area Sample	Column N18 area; Cubicle 21; about center; approximately five feet above floor/Sampling activities only	N/A	20912001- 16AR	13:06/ 14:21	75 minutes	Formaldehyde	0.01	0.75
Blank	N/A	N/A	20912001- 17AR Blank	N/A	N/A	Formaldehyde	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment

N/A: Not applicable ppm: Parts per million

<: Less than

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

APPENDIX A



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450 N Street
Sacramento, California 94279

TABLE 20912001-5 16TH FLOOR AIRBORNE 4-PHENYLCYCLOHEXENE RESULTS SACRAMENTO, CALIFORNIA DECEMBER 1, 2009

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (ppbv)	PEL (ppm)
Area Sample	Quiet Room 1614; about center; approximately five feet	N/A	20912001-	07:30/	360	4-Phenylcyclohexene	<1.0	N/A
	above floor/Sampling activities only		01AR	13:30	minutes			
Area Sample	Column K20 area; Cubicle 47; about center; approximately	N/A	20912001-	07:33/	360	4-Phenylcyclohexene	<1.0	N/A
	five feet above floor/Sampling activities only		02AR	13:33	minutes			

LEGEND

PPE: Personal protective equipment

N/A: Not applicable

PPBV: Parts per billion volume

<: Less than

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

CLIENT: California State
Board of Equalization
450 N Street
Sacramento, California 94279



TABLE 20912001-6
DIRECT-READING RESULTS
16TH FLOOR
SACRAMENTO, CALIFORNIA
DECEMBER 1, 2009

LOCATION/SITE ACTIVITIES	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	COMMENTS
Northeastern quadrant; approximately five feet above floor/Sampling activities only	9:00/9:10	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A
Northwestern quadrant; approximately five feet above floor/Sampling activities only	9:10/9:20	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A
Southeastern quadrant; approximately five feet above floor/Sampling activities only	9:21/9:30	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A
Southwestern quadrant; approximately five feet above floor/Sampling activities only	9:31/9:40	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A

ND: Not detected <: Less than

N/A: Not applicable ppm: Parts per million



Report for:

Mr. Wesley Frey Hygiene Technologies International, Inc.: Northern California 3625 Del Amo Boulevard, Suite 180 Torrance, CA 90503-8370

Regarding: Project: 20912001-1

EMĹ ID: 606489

Mey

Approved by:

Lab Manager Malcolm Moody Dates of Analysis:

Spore trap analysis: 12-03-2009

Project SOPs: Spore trap analysis (I100000)

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Document Number: 200091 - Revision Number: 5

Client: Hygiene Technologies International, Inc.:

Date of Sampling: 11-01-2009 Northern California Date of Receipt: 12-02-2009 C/O: Mr. Wesley Frey Date of Report: 12-03-2009

Re: 20912001-1

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		12001- IOUTSM			20912001- 1TM03SM		20912001- 1TM04SM	
Comments (see below)		Vone		Vone	A		В	
Lab ID-Version‡:	268	7953-1	268	7954-1	268	7955-1	268	7956-1
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria		_	1	13				
Arthrinium								
Ascospores*	17	910						
Aureobasidium								
Basidiospores*	164	8,700			2	110	2	110
Bipolaris/Drechslera group		,						
Botrytis								
Chaetomium								
Cladosporium	92	4,900			7	93	7	130
Curvularia		,						
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Oidium	1	13						
Other brown	1	13						
Penicillium/Aspergillus types†	36	1,900					2	110
Pithomyces		,						
Rusts*								
Smuts*, Periconia, Myxomycetes*	8	110			1	13		
Stachybotrys								
Stemphylium								
Torula	1	13						
Ulocladium								
Background debris (1-4+)††	3+		1+		1+		1+	
Hyphal fragments/m3	160		< 13		13		< 13	
Pollen/m3	13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORE/m3		17,000		13		210	Cl. 1	350

Comments: A) The 7 raw count Cladosporium spores were present as a single clump. B) 6 of the raw count Cladosporium spores were present as a single clump.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

^{*} Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

^{††}Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

A "Version" greater than 1 indicates amended data.

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision. TestAmerica Environmental Microbiology Laboratory, Inc.

Client: Hygiene Technologies International, Inc.:

Date of Sampling: 11-01-2009 Northern California Date of Receipt: 12-02-2009 C/O: Mr. Wesley Frey Date of Report: 12-03-2009

Re: 20912001-1

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	1TM	12001- 105SM	20912001- 1TM06SM			12001- 107SM	20912001- 1TM08SM	
Comments (see below)	N	lone		C	None		C	
Lab ID-Version‡:	268	7957-1	268	7958-1	2687959-1		2687960-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria		_		_		_		_
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*					1	53		
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	1	53			2	110		
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Oidium								
Other brown								
Penicillium/Aspergillus types†								
Pithomyces								
Rusts*								
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		1+		1+		1+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORE/m3		53		< 13		160		< 13

Comments: C) No spores detected.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

A "Version" greater than 1 indicates amended data.

^{*} Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

^{††}Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision. TestAmerica Environmental Microbiology Laboratory, Inc.

Date of Sampling: 11-01-2009 Client: Hygiene Technologies International, Inc.: Northern California Date of Receipt: 12-02-2009 C/O: Mr. Wesley Frey Date of Report: 12-03-2009

Re: 20912001-1

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		1-1TM09SM	20912001-1	20912001-1TM10OUTSM			
Comments (see below)	1	None	1	None			
Lab ID-Version‡:	268	37961-1	2687962-1				
	raw ct.	spores/m3	raw ct.	spores/m3			
Alternaria			2	27			
Arthrinium							
Ascospores*			11	590			
Aureobasidium							
Basidiospores*	1	53	128	6,800			
Bipolaris/Drechslera group							
Botrytis							
Chaetomium							
Cladosporium	1	53	69	3,700			
Curvularia				-			
Epicoccum							
Fusarium							
Myrothecium							
Nigrospora							
Oidium							
Other brown							
Other colorless							
Penicillium/Aspergillus types†			22	1,200			
Pithomyces				·			
Rusts*			2	27			
Smuts*, Periconia, Myxomycetes*			7	93			
Stachybotrys							
Stemphylium							
Torula							
Ulocladium			1	13			
Zygomycetes							
Background debris (1-4+)††	1+		3+				
Hyphal fragments/m3	< 13		120				
Pollen/m3	< 13		13				
Skin cells (1-4+)	< 1+		< 1+				
Sample volume (liters)	75		75				
§ TOTAL SPORE/m3		110		12,000			

^{*} Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

^{††}Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

A "Version" greater than 1 indicates amended data.

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision. TestAmerica Environmental Microbiology Laboratory, Inc.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldRANGE™: Extended Outdoor Comparison Outdoor Location: 20912001-1TM01OUTSM

Fungi Identified	Outdoor	Typic	al Outdoo	or Data by	Date†	Typical Outdoor Data by Location:			
	data	Month: November			State: CA				
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	-	7	27	290	51	7	27	230	57
Bipolaris/Drechslera group	-	7	13	190	19	7	13	130	13
Chaetomium	-	7	13	210	12	7	13	120	19
Cladosporium	4,900	27	590	11,000	95	53	640	6,800	97
Curvularia	-	7	22	790	19	7	13	230	7
Nigrospora	-	7	13	210	19	7	13	170	8
Other brown	13	7	13	110	33	7	13	89	35
Penicillium/Aspergillus types	1,900	27	230	3,000	83	33	210	2,500	85
Stachybotrys	-	7	13	270	3	7	13	280	5
Torula	13	7	13	130	10	7	13	150	12
Ulocladium	-	7	13	110	8	7	13	93	10
Seldom found growing indoors**									
Ascospores	910	13	110	2,900	75	13	110	1,900	71
Basidiospores	8,700	13	370	17,000	93	13	210	7,100	93
Oidium	13	7	13	240	9	7	13	190	20
Rusts	-	7	13	280	24	7	13	250	28
Smuts, Periconia, Myxomycetes	110	7	53	750	73	8	40	490	70
TOTAL SPORES/M3	16,559								

[†] The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

[‡] The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldRANGE™: Extended Outdoor Comparison Outdoor Location: 20912001-1TM10OUTSM

Fungi Identified	Outdoor	Typica	al Outdoo	or Data by	Date†	Typical Outdoor Data by Location:			
	data		Month: November			State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	27	7	27	290	51	7	27	230	57
Bipolaris/Drechslera group	-	7	13	190	19	7	13	130	13
Chaetomium	-	7	13	210	12	7	13	120	19
Cladosporium	3,700	27	590	11,000	95	53	640	6,800	97
Curvularia	-	7	22	790	19	7	13	230	7
Nigrospora	-	7	13	210	19	7	13	170	8
Other brown	-	7	13	110	33	7	13	89	35
Penicillium/Aspergillus types	1,200	27	230	3,000	83	33	210	2,500	85
Stachybotrys	-	7	13	270	3	7	13	280	5
Torula	-	7	13	130	10	7	13	150	12
Ulocladium	13	7	13	110	8	7	13	93	10
Seldom found growing indoors**									
Ascospores	590	13	110	2,900	75	13	110	1,900	71
Basidiospores	6,800	13	370	17,000	93	13	210	7,100	93
Oidium	-	7	13	240	9	7	13	190	20
Rusts	27	7	13	280	24	7	13	250	28
Smuts, Periconia, Myxomycetes	93	7	53	750	73	8	40	490	70
TOTAL SPORES/M3	12,450								

[†] The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

[‡] The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

880 Riverside Parkway, West Sacramento, CA 95605 (866) 888-6653 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

Date of Sampling: 11-01-2009

Re: 20912001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Outdoor Summary: 20912001-1TM01OUTSM:

Species detected		Outdoor sample spores/m3			Typical ou	Freq.	
	<100	1K	10K	>100K	(North America)		%
Ascospores				910	13 - 16	0 - 4,700	76
Basidiospores				8,700	13 - 32	0 - 16,000	91
Cladosporium				4,900	27 - 53	0 - 9,100	93
Oidium				13	7 - 1	3 - 230	15
Other brown				13	7 - 1	3 - 110	31
Penicillium/Aspergillus types				1,900	25 - 21	0 - 2,500	79
Smuts, Periconia, Myxomycetes				110	7 - 4	- 860	69
Torula				13	7 - 1	3 - 160	11
Total				16,559			

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 20912001-1TM02SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement (indoor/ou		Spearma correlat (indoor/o	tion***	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.	.0000	dF: Result: Critical val Outside Si	0.0667 ue: 0.5833	Score: 105 Result: Low
Species	Detected			Spore	es/m3	
		<100	1K		10K	>100K
					13	
	Total					13

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Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wesley Frey Re: 20912001-1 Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 20912001-1TM03SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.5455	dF: 8 Result: 0.7619 Critical value: 0.6190 Outside Similar: Yes	Score: 102 Result: Low	
Species	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Basidiospores			110	
Cladosporium				93	
Smuts, Periconia, Myxomycetes				13	
	Total			216	

Location: 20912001-1TM04SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreemer (indoor/o		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.5455		dF: 8 Result: 0.8631 Critical value: 0.6190 Outside Similar: Yes	Score: 111 Result: Low	
Species 1	Detected			Spores/m3		
		<100	1K	10K	>100K	
	Basidiospores				110	
Cladosporium					130	
Penicillium/Aspergillus types					110	
	Total				350	

Location: 20912001-1TM05SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ent ratio** /outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Resul	t: 0.2222	dF: 8 Result: 0.5952 Critical value: 0.6190 Outside Similar: No	Score: 102 Result: Low
Species	Detected			Spores/m3	
		<100	1K	10K	>100K
	Cladosporium				53
	Total				53

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Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wesley Frey Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

Date of Sampling: 11-01-2009

Re: 20912001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 20912001-1TM06SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low		
Species Detected		Spores/m3				
		<100 1K	10K	>100K		
	None Detected			N/A		

Location: 20912001-1TM07SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.4000	dF: 8 Result: 0.7917 Critical value: 0.6190 Outside Similar: Yes	Score: 104 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			53
	Cladosporium			110
	Total			163

Location: 20912001-1TM08SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low		
Species 1	Detected	Spores/m3				
		<100 1K	10K	>100K		
	None Detected			N/A		

Client: Hygiene Technologies International, Inc.:

Date of Sampling: 11-01-2009 Northern California Date of Receipt: 12-02-2009 C/O: Mr. Wesley Frey Date of Report: 12-03-2009

Re: 20912001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 20912001-1TM09SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.4000	dF: 8 Result: 0.8095 Critical value: 0.6190 Outside Similar: Yes	Score: 101 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			53
Cladosporium				53
	Total			106

^{*} The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

**** MoldSCORETM is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

^{**} An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

^{***} The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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Date of Sampling: 11-01-2009

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Date of Receipt: 12-02-2009 Date of Report: 12-03-2009 Re: 20912001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Outdoor Summary: 20912001-1TM10OUTSM:

Species detected		Outdoor sample spores/m3			Typical ou	door ranges	Freq.
	<100 1K 10K >100K (North America)		America)	%			
Alternaria				27	7 - 2	7 - 400	52
Ascospores				590] 13 - 16	0 - 4,700	76
Basidiospores				6,800] 13 - 32	0 - 16,000	91
Cladosporium				3,700] 27 - 53	0 - 9,100	93
Penicillium/Aspergillus types				1,200] 25 - 21	0 - 2,500	79
Rusts				27] 7 - 1	7 - 320	22
Smuts, Periconia, Myxomycetes				93] 7 - 4	- 860	69
Ulocladium				13] 7 - 1	3 - 93	6
Total				12,450]		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 20912001-1TM02SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nt ratio** (outdoor)	Spearman rank correlation*** (indoor/outdoor	(indoor/outdoor)
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result	0.2222	dF: 8 Result: 0.1488 Critical value: 0.619 Outside Similar: No	- 1
Species	Detected			Spores/m3	
		<100	1K	10K	>100K
	Alternaria				13
	Total				13

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Client: Hygiene Technologies International, Inc.: Northern California

Northern California C/O: Mr. Wesley Frey Re: 20912001-1 Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 20912001-1TM03SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)				
Result: 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.5455	dF: 8 Result: 0.7440 Critical value: 0.6190 Outside Similar: Yes	Score: 102 Result: Low				
Species 1	Detected	Spores/m3						
		<100 1K	10K	>100K				
	Basidiospores			110				
	Cladosporium			93				
Smuts, F	Periconia, Myxomycetes			13				
	Total			216				

Location: 20912001-1TM04SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: 2%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.5455		dF: 8 Result: 0.8452 Critical value: 0.6190 Outside Similar: Yes	Score: 112 Result: Low			
Species	Detected	Spores/m3						
		<100	1K	10K	>100K			
	Basidiospores				110			
Cladosporium					130			
Penicillium/Aspergillus types					110			
	Total				350			

Location: 20912001-1TM05SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** oor/outdoor)	corre	man rank lation*** r/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	R	esult: 0.2222	Resu Critical	dF: 8 dt: 0.5774 value: 0.6190 e Similar: No	Score: 102 Result: Low	
Species	Detected			Spo	ores/m3		
		<100	1K		10K	>100K	
	Cladosporium					53	
	Total					53	

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Client: Hygiene Technologies International, Inc.: Northern California Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009 C/O: Mr. Wesley Frey

Re: 20912001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 20912001-1TM06SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10K	>100K
	None Detected			N/A

Location: 20912001-1TM07SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.4000	dF: 8 Result: 0.7738 Critical value: 0.6190 Outside Similar: Yes	Score: 104 Result: Low		
Species	Detected		Spores/m3			
		<100 1K	10K	>100K		
	Basidiospores			53		
	Cladosporium			110		
	Total			163		

Location: 20912001-1TM08SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low		
Species 1	Detected		Spores/m3			
		<100 1K	10K	>100K		
_	None Detected			N/A		

Client: Hygiene Technologies International, Inc.:

Date of Sampling: 11-01-2009 Northern California Date of Receipt: 12-02-2009 C/O: Mr. Wesley Frey Date of Report: 12-03-2009

Re: 20912001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 20912001-1TM09SM

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: < 1%	dF: 7 Result: 7.4167 Critical value: 14.0671 Inside Similar: Yes	Result: 0.4000	dF: 8 Result: 0.7917 Critical value: 0.6190 Outside Similar: Yes	Score: 101 Result: Low			
Species	Detected		Spores/m3				
		<100 1K	10K	>100K			
	Basidiospores			53			
	Cladosporium			53			
	Total			106			

^{*} The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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^{**} An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

^{***} The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: Spore Trap Report

Outdoor Sample: 20912001-1TM01OUTSM

Fungi Identified	Ου	ıtd	00	or	sar	np	le	S	po	res	s/n	n3	Raw	Spores/
	<10	0		1	K			1	0K		>1	00K	count	m3
Generally able to grow indoors*														
Alternaria													ND	< 13
Bipolaris/Drechslera group													ND	< 13
Chaetomium													ND	< 13
Cladosporium													92	4,900
Curvularia													ND	< 13
Nigrospora													ND	< 13
Other brown													1	13
Penicillium/Aspergillus types†			П										36	1,900
Stachybotrys													ND	< 13
Torula													1	13
Seldom found growing indoors**														
Ascospores††													17	910
Basidiospores††													164	8,700
Oidium													1	13
Rusts													ND	< 13
Smuts, Periconia, Myxomycetes††													8	110
Total														16,559

20912001-1TM02SM **Location:**

Fungi Identified	Ind	loor	sam	ple	es/n	13	Raw	Spores/	
	<100		1K		10K	>	100K	count	m3
Generally able to grow indoors*									
Alternaria								1	13
Bipolaris/Drechslera group	Ш							ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total									13

MoldSCORE; 200 300 Score							
	105						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
Final MoldSCORE	105						

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: Spore Trap Report Location: 20912001-1TM03SM

Fungi Identified	Indo	oor s	samj	ole s	spore	es/m	3	Raw	Spores/
	<100		1K		10K	>10	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								7	93
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								2	110
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								1	13
Total			•		·				216

100	MoldSC0	ORE: 300	
			100
			100
			100
			102
			100
			100
			100
			100
			100
			100
			100
			100
			102
Fina	al MoldSCO	ORE	102

Location: 20912001-1TM04SM

Fungi Identified	Inde	or sa	mple	spore	s/m3	Raw	Spores/
	<100	1 F	(10K	>100	count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						7	130
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						2	110
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						2	110
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							350

100	MoldSC 200		‡ Score							
			100							
			100							
			100							
			102							
			100							
			100							
			111							
			100							
			100							
			100							
			100							
			100							
			100							
Fina	Final MoldSCORE									

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

53

MoldSCORETM: **Spore Trap Report Location**: 20912001-1TM05SM

Fungi Identified	Indo	oor	sam	ple s	spore	s/m	13	Raw	Spores/
	<100		1K		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13

100 Mol o	dSCO		Score								
			100								
			100								
			100								
			102								
			100								
			100								
			100								
			100								
			100								
			100								
			100								
			100								
			100								
Final Mol	dSCO	RE	102								
			Tillal Molascoke 102								

Location: 20912001-1TM06SM

Total

Fungi Identified	Inc	loo	r s	am	ple	S	por	es/	m3	3	Raw	Spores/
	<100			K			10K		>100	0K	count	m3
Generally able to grow indoors*												
Alternaria											ND	< 13
Bipolaris/Drechslera group											ND	< 13
Chaetomium											ND	< 13
Cladosporium											ND	< 13
Curvularia											ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†											ND	< 13
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											ND	< 13
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												N/A

100	MoldSCORE; 200 300 Score									
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
Fina	Final MoldSCORE									

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: Spore Trap Report Location: 20912001-1TM07SM

Fungi Identified	Indo	or san	ıple :	spore	s/m3	3]	Raw	Spores/
	<100	1K		10K	>10	0K C	count	m3
Generally able to grow indoors*								
Alternaria							ND	< 13
Bipolaris/Drechslera group							ND	< 13
Chaetomium							ND	< 13
Cladosporium							2	110
Curvularia							ND	< 13
Nigrospora							ND	< 13
Penicillium/Aspergillus types†							ND	< 13
Stachybotrys							ND	< 13
Torula							ND	< 13
Seldom found growing indoors**								
Ascospores††							ND	< 13
Basidiospores††							1	53
Rusts					Ш		ND	< 13
Smuts, Periconia, Myxomycetes††							ND	< 13
Total								163

100	MoldSCO		: Score
			100
			100
			100
			104
			100
			100
			100
			100
			100
			100
			100
			100
			100
Fina	al MoldSCO	RE	104

Location: 20912001-1TM08SM

Fungi Identified	Inc	loo	r s	am	ple	S	por	es/	m3	3	Raw	Spores/
	<100			K			10K		>100	0K	count	m3
Generally able to grow indoors*												
Alternaria											ND	< 13
Bipolaris/Drechslera group											ND	< 13
Chaetomium											ND	< 13
Cladosporium											ND	< 13
Curvularia											ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†											ND	< 13
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											ND	< 13
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												N/A

100	MoldS(Score							
100	200	300	beore							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
Fina	Final MoldSCORE									

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: Spore Trap Report Location: 20912001-1TM09SM

Fungi Identified	Indo	or	samj	ole s	spore	es/n	13	Raw	Spores/
	<100		1K		10K	>	100I	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total			·						106

N. HIGGOD	
MoldSCOR 200 3	E‡ 600 Score
	100
	100
	100
	101
	100
	100
	100
	100
	100
	100
	100
	100
	100
Final MoldSCORI	E 101

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

[†]The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

^{††}Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

Re: 20912001-1

MoldSCORETM: Spore Trap Report

Outdoor Sample: 20912001-1TM10OUTSM

Fungi Identified	Oı	ıtdo	or	sam	ple	e sp	ore	es/ı	m3	Raw	Spores/
_	<10	0	1	K		10	K	>	100k	count	m3
Generally able to grow indoors*											
Alternaria										2	27
Bipolaris/Drechslera group										ND	< 13
Chaetomium								Ш		ND	< 13
Cladosporium										69	3,700
Curvularia										ND	< 13
Nigrospora								Ш		ND	< 13
Penicillium/Aspergillus types†										22	1,200
Stachybotrys										ND	< 13
Torula								Ш		ND	< 13
Ulocladium										1	13
Seldom found growing indoors**											
Ascospores††										11	590
Basidiospores††								Ш		128	6,800
Rusts					Ш	Ш				2	27
Smuts, Periconia, Myxomycetes††										7	93
Total											12,450

Location: 20912001-1TM02SM

Fungi Identified	Ind	loor	· sa	mple	S	por	es/1	m3	Raw	Spores/
	<100		1K			10K	>	>100F	count	m3
Generally able to grow indoors*										
Alternaria									1	13
Bipolaris/Drechslera group									ND	< 13
Chaetomium									ND	< 13
Cladosporium									ND	< 13
Curvularia									ND	< 13
Nigrospora									ND	< 13
Penicillium/Aspergillus types†									ND	< 13
Stachybotrys									ND	< 13
Torula									ND	< 13
Seldom found growing indoors**										
Ascospores††									ND	< 13
Basidiospores††									ND	< 13
Rusts									ND	< 13
Smuts, Periconia, Myxomycetes††									ND	< 13
Total										13

MoldSCORE; 100 200 300 Score								
100	200	300	Score					
			105					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
Fina	al MoldSCO	ORE	105					

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: **Spore Trap Report Location:** 20912001-1TM03SM

Fungi Identified	In	ıdo	or	·S	am	pl	e s	spo	re	s/n	n3		Raw	Spores/
	<10	0		1	١K			10I	ζ	>	100	K	count	m3
Generally able to grow indoors*														
Alternaria													ND	< 13
Bipolaris/Drechslera group													ND	< 13
Chaetomium													ND	< 13
Cladosporium													7	93
Curvularia													ND	< 13
Nigrospora													ND	< 13
Penicillium/Aspergillus types†													ND	< 13
Stachybotrys													ND	< 13
Torula										П			ND	< 13
Seldom found growing indoors**														
Ascospores††										П			ND	< 13
Basidiospores††													2	110
Rusts											Ш		ND	< 13
Smuts, Periconia, Myxomycetes††													1	13
Total					•									216

MoldSCORE;								
100 200 300	Score							
	100							
	100							
	100							
	102							
	100							
	100							
	100							
	100							
	100							
	100							
	100							
	100							
	102							
Final MoldSCORE	102							

Location: 20912001-1TM04SM

Fungi Identified	Inde	or sa	mple	spore	s/m3	Raw	Spores/
	<100	1 F	(10K	>100	count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						7	130
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						2	110
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						2	110
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							350

1411000000									
100	MoldSC								
100	200	300	Score						
			100						
			100						
			100						
			102						
			100						
			100						
			112						
			100						
			100						
			100						
			100						
			100						
			100						
Fina	112								

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

53

MoldSCORETM: **Spore Trap Report Location**: 20912001-1TM05SM

Fungi Identified	Indo	oor	sam	ple s	spore	s/m	13	Raw	Spores/
	<100		1K		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13

100 Mol o		Score	
			100
			100
			100
			102
			100
			100
			100
			100
			100
			100
			100
			100
			100
Final Mol	RE	102	

Location: 20912001-1TM06SM

Total

Fungi Identified	Indoor sample spores/m3								m3	3	Raw	Spores/
	<100			K			10K		>100	0K	count	m3
Generally able to grow indoors*												
Alternaria											ND	< 13
Bipolaris/Drechslera group											ND	< 13
Chaetomium											ND	< 13
Cladosporium											ND	< 13
Curvularia											ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†											ND	< 13
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											ND	< 13
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												N/A

MoldSCORE; 100 200 300 Score									
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
Fina	100								

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Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: Spore Trap Report Location: 20912001-1TM07SM

Fungi Identified	Indo	or san	ıple s	3	Raw	Spores/		
	<100	1K		10K	>10	0K	count	m3
Generally able to grow indoors*								
Alternaria							ND	< 13
Bipolaris/Drechslera group							ND	< 13
Chaetomium							ND	< 13
Cladosporium							2	110
Curvularia							ND	< 13
Nigrospora							ND	< 13
Penicillium/Aspergillus types†							ND	< 13
Stachybotrys							ND	< 13
Torula							ND	< 13
Seldom found growing indoors**								
Ascospores††							ND	< 13
Basidiospores††							1	53
Rusts							ND	< 13
Smuts, Periconia, Myxomycetes††							ND	< 13
Total								163

100	: Score								
			100						
			100						
			100						
			104						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
Fina	Final MoldSCORE								

Location: 20912001-1TM08SM

Fungi Identified	Indoor sample spores/m3						Raw	Spores/			
	<100		1	K			10K	>100	K	count	m3
Generally able to grow indoors*											
Alternaria										ND	< 13
Bipolaris/Drechslera group										ND	< 13
Chaetomium										ND	< 13
Cladosporium										ND	< 13
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										ND	< 13
Stachybotrys										ND	< 13
Torula										ND	< 13
Seldom found growing indoors**											
Ascospores††										ND	< 13
Basidiospores††										ND	< 13
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											N/A

MoldSCORE‡ 100 200 300 Score								
100	200	300	beore					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
			100					
Fina	100							

Client: Hygiene Technologies International, Inc.:

Northern California C/O: Mr. Wesley Frey

Re: 20912001-1

Date of Sampling: 11-01-2009 Date of Receipt: 12-02-2009 Date of Report: 12-03-2009

MoldSCORETM: Spore Trap Report Location: 20912001-1TM09SM

Fungi Identified	Indo	Indoor sample spores/m3							Spores/
	<100		1K		10K	>	100I	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								1	53
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13
Total			•						106

MoldSCORE‡ 100 200 300 Score									
	100								
	100								
	100								
	101								
	100								
	100								
	100								
	100								
	100								
	100								
	100								
	100								
	100								
Final MoldSCORI	E 101								

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

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^{††}Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.



00606489

Hygiene Technologies International, Inc.

3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-2474 FAX www.hygienetech.com

Request For Analysis

				—
Project Number/Purcha	se Order: 20	912001-1	Date Submitted: 11/01/2 00	2
Project Contact: 54	ED ME	1DI	Turnaround Required: 24675	_
Lab Destination: <u>F1</u>	1 LAR		Lab Contact: SAMPLE RECEIVER	<u> 4</u> 9
SAMPLE ID	VOLUME	MEDIA	. ANALYSIS REQUESTED	
20912001-1 TM010075	40 75%	Air-O-Cell	SPORE TRAP	_
20912001-1 TM0284		1		\Box
BOA12001 - 1 TXN035M				_
40912001 -1 TMOUSM				_
20912001-1 7MOSSM				
20912101-1 TMOBSM				_
20412401-1 TM 075AA		· .		
26912001-1 TM 085M	<u></u>	·		_
20912001-1 TANOG SAM				_
20912001-1 TM 1800TSM	<u></u>	V		
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Special Instructions:	5 mehd	i@ hyggien	e tech, com	_
				_
1. Sampled by: Sampled	n @ 10:30	11/01/09	Received by:	_]
2. Relinquished by:	Sun (a) 13:0	10 11/01/89	Received by: 12204 9201	_ [
3. Relinquished by:		·	Received by:	_
		Please include signs	ture, date, and time	\dashv
Lab Use Only:				
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